Michigan Department of Transportation 5100B (07/07)

CHECKLIST TO DESIGNATE AREAS OF EVALUATION FOR REQUESTS FOR PROPOSAL (RFP)

Exhibit B

MDOT PROJECT MANAGER	JOB NUMBER (JN)	CONTROL SECTION (CS)
Munawar Azam	89295	80032

DESCRIPTION IF NO JN/CS

MDOT PROJECT MANAGER: Check all items to be included in RFP.

WHITE = REQUIRED
GRAY SHADING = OPTIONAL

Check the appropriate Tier in the box below

☐ **TIER I ($25,000-$99,999)**	☒ **TIER II ($100,000-$250,000)**	☐ **TIER III (>$250,000)**	**CONSULTANT:** Provide only checked items below in proposal.
☐	☒	☐	Understanding of Service
☐	☐	☐	*Innovations*
☐	☐	☐	*Safety Program*
N/A	☒	☐	Organization Chart
☐	☒	☐	Qualifications of Team
☐	☒	☐	Past Performance
Not required as part of official RFP	Not required as part of official RFP	☐	Quality Assurance/Quality Control
☐	☒	☐	**Location:** The percentage of work performed in Michigan will be used for all selections unless the project is for on-site inspection or survey activities, then location should be scored using the distance from the consultant office to the on-site inspection or survey activity.
N/A	N/A	☐	Presentation
N/A	N/A	☐	Technical Proposal (if Presentation is required)
3 pages (MDOT forms not counted) **(No Resumes)**	7 pages (MDOT forms not counted)	19 pages (MDOT forms not counted)	Total maximum pages for RFP **not including key personnel resumes**

REQUEST FOR PROPOSAL

The Michigan Department of Transportation (MDOT) is seeking professional services for the project contained in the attached scope of services.

If your firm is interested in providing services, please indicate your interest by submitting a Proposal, Proposal/Bid Sheet or Bid Sheet as indicated below. The documents must be submitted in accordance with the latest "Consultant/Vendor Selection Guidelines for Service Contracts" and "Guideline for Completing a Low Bid Sheet(s)", if a low bid is involved as part of the selection process. **Referenced Guidelines are available on MDOT's website under Doing Business > Vendor/Consultant Services >Vendor/Consultant Selections.**

RFP SPECIFIC INFORMATION

☑ BUREAU OF HIGHWAYS ☐ BUREAU OF TRANSPORTATION PLANNING ** ☐ OTHER

THE SERVICE WAS POSTED ON THE ANTICIPATED QUARTERLY REQUESTS FOR PROPOSALS

☑ NO ☐ YES DATED _____ THROUGH _____

☑ **Prequalifed Services** – See page 1 of the attached Scope of Services for required Prequalification Classifications.

☐ **Non-Prequalifed Services** - If selected, the vendor must make sure that current financial information, including labor rates, overhead computations, and financial statements, if overhead is not audited, is on file with MDOT's Office of Commission Audits. This information must be on file for the prime vendor and all sub vendors so that the contract will not be delayed.

☑ **Qualifications Based Selection** – Use Consultant/Vendor Selection Guidelines

For all Qualifications Based Selections, the selection team will review the information submitted and will select the firm considered most qualified to perform the services based on the proposals. The selected vendor will be contacted to confirm capacity. Upon confirmation, that firm will be asked to prepare a priced proposal. Negotiations will be conducted with the firm selected.

** **For RFP's that originate in Bureau of Transportation Planning only**, a price proposal must be submitted at the same time as, but separate from, the proposal. Submit directly to the Contract Administrator/Selection Specialist, Bureau of Transportation Planning **(see address list, page 2)**. The price proposal must be submitted in a sealed manila envelope, clearly marked in large red letters **"PRICE PROPOSAL – TO BE OPENED ONLY BY SELECTION SPECIALIST."** The vendor's name and return address MUST be on the front of the envelope. The price proposal will only be opened for the highest scoring proposal. Unopened price proposals will be returned to the unselected vendor(s). Failure to comply with this procedure may result in your bid being opened erroneously by the mail room.

For a cost plus fixed fee contract, the selected vendor must have a cost accounting system to support a cost plus fixed fee contract. This type of system has a job-order cost accounting system for the recording and accumulation of costs incurred under its contracts. Each project is assigned a job number so that costs may be segregated and accumulated in the vendor's job-order accounting system.

☐ **Qualifications Review / Low Bid** - Use Consultant/Vendor Selection Guidelines. See Bid Sheet Instructions for additional information.

For Qualification Review/Low Bid selections, the selection team will review the proposals submitted and post the date of the bid opening on the MDOT website. The notification will be posted at least two business days prior to the bid opening. Only bids from vendors that meet proposal requirements will be opened. The vendor with the lowest bid will be selected. The selected vendor may be contacted to confirm capacity.

☐ **Best Value** - Use Consultant/Vendor Selection Guidelines. See Bid Sheet Instructions below for additional information. The bid amount is a component of the total proposal score, not the determining factor of the selection.

☐ **Low Bid** (no qualifications review required - no proposal required.) See Bid Sheet Instructions below for additional instructions.

BID SHEET INSTRUCTIONS

A bid sheet(s) must be submitted in accordance with the "Guideline for Completing a Low Bid Sheet(s)" (available on MDOT's website). The Bid Sheet is located at the end of the Scope of Services. Submit bid sheet(s) separate from the proposal, to the address indicated below. The bid sheet(s) must be submitted in a sealed manila envelope, clearly marked **"SEALED BID."** The vendor's name and return address MUST be on the front of the envelope. Failure to comply with this procedure may result in your bid being opened erroneously by the mail room and the bid being rejected from consideration.

PROPOSAL SUBMITTAL INFORMATION

REQUIRED NUMBER OF COPIES FOR PROJECT MANAGER	PROPOSAL DUE DATE	TIME DUE
3	11/26/07	12:00 PM

PROPOSAL AND BID SHEET MAILING ADDRESSES

Mail the multiple proposal bundle to the MDOT Project Manager or Other indicated below.

☑ MDOT Project Manager ☐ MDOT Other

Munawar Azam
MDOT - Southwest Region Office
1501 E. Kilgore Road
Kalamazoo, MI 49001

Mail one additional stapled copy of the proposal to the Lansing Office indicated below.

	Lansing Regular Mail	OR	Lansing Overnight Mail
☑	Secretary, Contract Services Div - B470 Michigan Department of Transportation PO Box 30050 Lansing, MI 48809		Secretary, Contract Services Div - B470 Michigan Department of Transportation 425 W. Ottawa Lansing, MI 48833
☐	Contract Administrator/Selection Specialist Bureau of Transportation Planning B470 Michigan Department of Transportation PO Box 30050 Lansing, MI 48809		Contract Administrator/Selection Specialist Bureau of Transportation Planning B470 Michigan Department of Transportation 425 W. Ottawa Lansing, MI 48833

GENERAL INFORMATION

Any questions relative to the scope of services must be submitted by e-mail to the MDOT Project Manager. Questions must be received by the Project Manager at least four (4) working days prior to the due date and time specified above. All questions and answers will be placed on the MDOT website as soon as possible after receipt of the questions, and at least three (3) days prior to the RFP due date deadline. The names of vendors submitting questions will not be disclosed.

MDOT is an equal opportunity employer and MDOT DBE firms are encouraged to apply. The participating DBE firm, as currently certified by MDOT's Office of Equal Opportunity, shall be listed in the Proposal

MDOT FORMS REQUIRED AS PART OF PROPOSAL SUBMISSION

5100D – Request for Proposal Cover Sheet
5100G – Certification of Availability of Key Personnel
5100I – Conflict of Interest Statement

(These forms are not included in the proposal maximum page count.)

Michigan Department of Transportation

SCOPE OF SERVICE
FOR
PRE- DESIGN SERVICES

CONTROL SECTION: 80032

JOB NUMBER: 89295

PROJECT LOCATION:

I-196 BL from M-140 to 73rd Street and M-43 from I-196 to I-196 BL in the City of South Haven, and South Haven Township, in Van Buren County. The project length is 4.634 miles.

PROJECT DESCRIPTION: Project scoping which consists of obtaining, reviewing, analyzing, and incorporating project data and recommendations for all work related to the preparation of the preliminary and final scoping reports for the rehabilitation of the roadway.

ANTICIPATED SERVICE START DATE: January 14, 2008

ANTICIPATED SERVICE COMPLETION DATE: September 26, 2008

PRIMARY PREQUALIFICATION CLASSIFICATION(S):

Roadway Rehabilitation and Rural Freeways

SECONDARY PREQUALIFICATION CLASSIFICATION(S):

Municipal Utilities
Maintaining Traffic Plans & Provisions
Hydraulics
Geotechnical Engineering Services
Safety Studies

DBE REQUIREMENT: 0%

MDOT PROJECT MANAGER:

Munawar Azam
MDOT – Southwest Region Office
1501 E. Kilgore Road
Kalamazoo, MI 49001
269-337-3920 Office
269-337-3916 Fax
azamm@michigan.gov

REQUIRED MDOT GUIDELINES AND STANDARDS:

Work shall conform to current MDOT, FHWA, and AASHTO practices, guidelines, policies, and standards (i.e., Road Design Manual, Standard Plans, Drainage Manual, Roadside Design Guide, A Policy on Geometric Design of Highways and Streets, Michigan Manual of Uniform Traffic Control Devices, etc.).

Consultant is required to use MDOT's current version of Bentley MicroStation for CADD applications and Bentley GEOPAK for road design. Consultant shall comply with all MDOT CADD standards and file naming conventions.

CONSULTANT RESPONSIBILITIES:

The CONSULTANT shall prepare Preliminary and Final Scoping Packages for the project location as detailed in **Attachment A**. As part of this project, the CONSULTANTS shall prepare and evaluate the proposed treatment for each roadway and determine the extent and cost of all work required for its implementation.

For the project, scoping will include but will not be limited to the following:

A. Verify the project location, the limits and the extents.

B. Conduct field reviews to obtain missing or supplement incomplete information.

C. Establish and detail the proposed scope of road work.

D. Determine Federal requirements and project conformance.

E. Perform Crash Analysis and recommend countermeasures including cost estimates.

F. Prepare pavement design recommendations for two different pavement treatments providing a 3R and 4R fix respectively. Reference MDOT Road Design Manual regarding 3R and 4R fixes. The two different pavement treatment recommendations will be the basis for the two courses of action being scoped in this contract.

G. Determine Maintenance of Traffic strategies for each recommended pavement treatment.

H. Compute and verify all quantities.

I. Compute and calculate detailed cost estimate using MDOT Pay Items.

J. Complete the Project Concept Statement and the Project Scoping Checklist.

K. Prepare a design hour estimate.

L. Prepare required documents (to include summary, typical cross sections, photographs, base plans, etc) required to answer all questions relating to the project scope of work (See Attachment A).

M. Determine Right of Way impacts, including detailed sketches.

N. Identify and provide solutions to any unique problems that may arise during the design of the project or that may affect the constructability.

O. Identify and provide solutions for Access Management and Context Sensitive Design for locations within the project limits.

DELIVERABLES:

Obtaining, reviewing, analyzing and incorporating project data and recommendations for all scoping related work. Work shall conform to current MDOT, FHWA, and ASHTO practices, guidelines, policies, and standards (i.e., Road Design Manual, Standard Plans, Drainage Manual, Roadside Design Guide, A Policy on Geometric Design of Highways and Streets, Michigan Manual of Uniform Traffic Control Devices, etc.). This will include, but will not be limited to, the following for the preparation of the Preliminary Scoping and the Final Scoping Packages for the project location. Following each item listed is a notation showing in which report (base, preliminary or final) that items will first appear. Please note that items in the Base Report are carried through the Final Report, etc.

BASE SCOPING REPORT

A Base Scoping Report shall be submitted on or before April 28, 2008, for MDOT review and comment. This report shall address all the items listed under CONSULTANT RESPONSIBILITIES (GENERAL) and Attachment A and items as noted as being required in the Base Scoping Report. If any of the aforementioned items are not included or not sufficiently complete as determined by the Project Manager, the Base Scoping Report will be rejected. The CONSULTANT will have up to five (5) working days to make the changes, as directed by the MDOT Project Manager, Munawar Azam.

In the Base Scoping Report, if there are any items, in the CONSULTANT'S opinion, that need further review, discussion, and/or additional information from MDOT, those items shall be clearly listed on the cover letter accompanying the report.

PRELIMINARY SCOPING REPORT

A Preliminary Scoping Report shall be submitted on or before June 30, 2008, for MDOT review and comment. This report shall address all the items listed under CONSULTANT RESPONSIBILITIES (GENERAL) and Attachment A items as noted as being required in the Preliminary Scoping Report. If any of the aforementioned items are not included or not sufficiently complete as determined by the Project Manager, the Preliminary Scoping Report will be rejected. The CONSULTANT will have up to five (5) working days to make the changes, as directed by the Project Manager.

In the Preliminary Scoping Report, if there are any items, in the CONSULTANT'S opinion, that need further review, discussion and/or additional information from MDOT, those items shall be clearly listed on the cover letter accompanying the report.

FINAL SCOPING REPORT

A Final Scoping Report shall be submitted for each project location on or before August 30, 2008. This report shall address and document all the items listed under CONSULTANT RESPONSIBILITIES (GENERAL) and Attachment A and items as noted as being required in the Final Scoping Report, and incorporate the comments and/or changes received from the Preliminary Scoping Report and the Preliminary Scope Review meetings. If any of the aforementioned items are not included or not sufficiently complete as determined by the Project Manager, the Final Scoping Report will be rejected. The CONSULTANT will have up to five (5) working days to make the changes, as directed by the Project Manager.

FINAL DELIVERABLE PACKAGE

The Final Deliverable Report for each project location shall be submitted on or before September 26, 2008. This report shall include all items under CONSULTANT RESPONSIBILITIES (GENERAL) and all items as required in Attachments A and D.

All work shall conform to current applicable MDOT, FHWA, and AASHTO practices, guidelines, policies, and standards (i.e. Roadside Design Guide, AASHTO Road Side Design Guide, AASHTO A Policy on Geometric Design of Highways and Streets, Michigan Manual of Uniform Traffic Control Devices, etc.).

PROJECT CONSTRUCTION COST:

For the project location a cost estimate shall be developed. The cost estimate shall include an adjustment for inflation (4% annual rate). The following are the items that shall be considered and shall be broken down by MDOT Pay Items and then rolled up into the categories as identified in the Project Scoping Checklist:

A. The estimated construction cost shall address:

1. Safety Related Work
2. Mainline Pavement (Base, Surface and Shoulder)
3. Non-Motorized
4. Geometric Improvements
5. Improve Alignment (Vertical/Horizontal)
6. Drainage Adjustment and Improvement
7. Joint Repair and Pavement Patching
8. Detours and Maintaining Traffic
9. Permanent Pavement Markings/Signs/Signals
10. Environmental
11. Miscellaneous
12. Aesthetic Opportunities
13. Municipal Utilities

B. The estimated number of real estate parcels and type (grading permit, easement or fee) and the associated cost for each.

PROJECT SCHEDULE:

The scheduled CONSULTANT'S completion dates are as follows: Preliminary Scoping Report – May 16, 2008; Final Scoping Report – July 25, 2008; and the Final Deliverable Report September 26, 2008. The CONSULTANT shall use the following events to prepare the proposed implementation schedule as required in the "Guidelines for the Preparation of Responses on Assigned Design Services Contracts." These dates shall be used in preparing the CONSULTANT'S monthly progress reports. A minimum of five (5) working days will be needed for MDOT review of the Preliminary Scoping Reports.

Target Date	Description
04/28/2008	Submittal of Base Scoping Report
06/30/2008	Submittal of Preliminary Scoping Report
07/18/2008	Preliminary Scope Review Meeting with MDOT Staff
08/30/2008	Submittal of Final Scoping Report
09/26/2008	Final Deliverable Report

MONTHLY PROGRESS REPORT:

On the first of each month, the Consultant Project Manager shall submit a monthly project progress report to the Project Manager. The monthly progress report shall follow the guidelines in Attachment C.

FORMAT:

The Preliminary and Final Scoping Reports (see Attachment A for items that will be included) shall

be presented on regular letter size paper (8 ½" x 11") with the exception of base maps, sketches and diagrams which shall be on 11" x 17" paper (and folded to match the 8 ½" x 11" paper).

There shall be fifteen (15) copies each of the Preliminary Scoping Report and the Final Scoping Report. One (1) copy of the existing plans used to develop the scope shall also be submitted with the Preliminary and Final Scoping Reports.

Each copy of the Preliminary Scoping Report will be stapled in the upper left hand corner. The cover sheet shall be entitled "Preliminary Scoping Report" and should include the control section, job number, route, and location description. An index shall also be included in each report. If there are any items, in the CONSULTANT'S opinion, that need further review, discussion and/or additional information from MDOT, those items shall be clearly listed on a cover sheet accompanying the report. The photographs included in the documents shall be in an electronic .jpg format with printouts at 4" x 6", in color, labeled with the location, direction from which the picture was taken, date, particular feature needing improvement and the approximate mile point. No fewer than 8 and no greater than 20 photos per project segment are required.

The Final Scoping Report (see Attachment A for items that will be included) shall be labeled (cover and side to be entitled "Final Scoping Report") and should include the control section, job number, route, and location description. The report shall be presented in a three ring binder, with an index and tabbed sections, containing 8 ½" x 11" regular letter size paper for the majority of the documents. 11" x 17" paper may be used for base maps, sketches, and diagrams. The photographs included in the documents shall be in an electronic .jpg format with printouts at 4" x 6", in color, labeled with the location, direction from which the picture was taken, date, particular feature needing improvement and the approximate control section mile point. No fewer than 20 and no greater than 50 photos per project segment are required.

The Final Deliverable Package's information shall be presented in three ring binders, each with an index and tabbed sections. This report shall be labeled cover and side. The hard copies of the summaries shall be presented on either 8 ½" x 11" regular letter size paper or 11" x 17" paper. For each project location, a single CD ROM shall be prepared for all electronic files of the project. The CD ROM shall be contained in a separate envelope labeled with the control section, job number, project location, and the CD contents. The envelope shall be included as part of the report and shall be attached and connected through the three ring binder.
The base map for each project location (as identified in Attachment A) is to be created electronically, using the latest department approved version of Micro Station design software, and following all MDOT drafting standards and guidelines as can be applied in English units. The entire base map for each project location is to be created in English units and is to be placed within a single approved MDOT printed sheet. The full size of the MDOT printed sheet is 24" x 36" however only an 11" x 17" (a reduced size copy) needs be provided. If it is recommended that the projects be designed in plan sheet job format, then the full size of the MDOT printed plan sheet is 11" x 17." All Microstation (Dgn) files shall be delivered in a CD ROM.

An alignment shall be created for each project location. The alignment shall describe stations as 100

feet and carry the decimal place out to two (2) decimal places (i.e. 10+00.00). The alignment shall draw the station ticks at every 100 feet, and annotate the station ticks at every 500 feet (i.e. 10+00.00, 15+00.00, and 20+00.00). The stationing of the alignment shall match that of the current right-of-way mapping. The location of the alignment will match that of the old plans. If old plans are not available, then the alignment shall be located down the center of the right-of-way.

Base sheets shall be created for each project location. The base sheets are to be created electronically using the Micro Station design software and follow all MDOT drafting standards and guidelines as can be applied in English units. The base sheets shall be developed using the base map for each of the entire project limits. The scale of the base sheets shall be appropriate for the length and type of project (i.e. 1" = 40' for urban highways and 1"=100' for rural highways). The base sheets are to be created in English units and are to be placed within an approved MDOT print sheet. The full size of the MDOT print sheet, at scale, is 24" x 36," however only an 11" x 17" (a reduced size copy) is required. If it is recommended that the projects be designed in plan sheet job format, then the full size of the MDOT printed plan sheet is 11" x 17" and the scale of the base sheets are not to exceed 40 scales.

All estimates and other project related items shall meet all MDOT requirements and detailing practices (i.e., format, materials, symbols, patterns, and layout) or as otherwise directed by the Project Manager.

All project related items are subject to review and approval by the Project Manager.

TRAFFIC CONTROL AND MDOT PERMITS:

The Consultant shall be responsible for all traffic control required to perform the tasks as outlined in this Scope of Design Services.

The CONSULTANT shall be responsible for obtaining up to date access permits and pertinent information for tasks in MDOT right-of-way. This information can be obtained through the Coloma Transportation Service Center's Permit Agent, Brett Arrans, at (269) 849-1494.

CONSULTANT RESPONSIBILITIES (GENERAL):

A. The Project Manager, Munawar Azam, shall be the official MDOT contact person for the CONSULTANT. The CONSULTANT must either address or send copies of all correspondence to the Project Manager. This includes all subcontractor correspondence and verbal contact records. The Project Manager shall be made aware of all communications regarding this project.

B. Meet with the Project Manager to review project, location of data sources and contact persons, and review relevant MDOT operations. The CONSULTANT shall review and clarify project issues, data needs and availability, and the sequence of events and team meetings that are essential to complete the project scoping by the project completion date. Attention shall be given to critical target dates that may require a large lead-time, such as

scope review meetings, etc.

C. Maintain a "Scoping Project Record," which includes a history of significant events (changes, comments, etc.) that influenced the development of the scopes, dates of submittals and receipt of information.

D. The CONSULTANT shall contact, in writing, the Project Manager whenever discoveries or design alternatives have the potential to require significant changes in the limits, quantities, costs, or right-of-way of the project.

E. Attend any project-related meetings as directed by the Project Manager.

F. The CONSULTANT'S representative shall record and submit typewritten minutes for all project related meetings to the Project Manager within two (2) weeks of the meeting. The CONSULTANT shall also distribute the minutes to all meeting attendees.

G. The CONSULTANT will be responsible for providing elevation view sketches at both sides of each and every bridge in the project area. The sketch must show the elevation of the roadway at 2 feet inside of the inside edge of metal and 2 feet outside of the outside edge of metal, as well as the interior lane lines, crown point and shoulder edges. The corresponding elevation of the structure under clearance immediately overhead must also be shown. The CONSULTANTS shall field measure all elevations. All under clearance sketches must be shown looking up station and clearly depict the clear roadway width.

H. The CONSULTANT will determine at least two (2) different pavement treatment recommendations. The different pavement treatment recommendations will be designed by the CONSULTANT utilizing AASHTO approved pavement design software (see Attachment G). The different pavement treatment recommendations will both be carried through scoping, as courses of action and cost estimates will be provided for both treatments. Geotechnical analysis and relevant geotechnical quantities will also be included where relevant. (Base/Preliminary/Final - B/P/F)

I. The CONSULTANT will collect soil boring/pavement core information and perform the needed soils surveys, soil boring, geotechnical investigation, and data analysis that will be needed to develop the scoping plans, pavement design, and quantities.

One core will be taken in each lane at intervals of approximately 1500 feet for the length of the project. Actual locations will be coordinated with the Project Manager. The CONSULTANT will coordinate the location markings with the Project Manager five (5) working days before the cores are taken.

Where granular soils are encountered, samples should be obtained and tested to determine whether the soil meets requirements for granular material class II or III per the current Standard Specifications for Construction. Samples should be taken at every core location. Results should be summarized on the core/boring log with the description of the soil layer tested.

Soil borings shall be taken at every other core location. All borings shall be drilled to a depth of fifteen (15) feet. To minimize utility concerns, the use of a hand auger is recommended.
(B/P/F)

J. For each project location, determine impacts of the proposed pavement treatment on the existing horizontal and vertical alignments, pavements, curb and gutter, drainage, right of way, etc. Every effort shall be made to minimize ROW impact within the limits of each of the project locations. In areas of potential ROW impact, the CONSULTANT shall document and identify the potential need for additional ROW, by station or address; type of ROW required (grading permit, easement, or fee); and/or proposed roadside improvements (i.e. fencing, turf establishment, landscaping, non motorized, etc.). ROW impacts shall be documented in terms of potential need (grading permit, easement, or fee). The ROW appraisal will be prepared by MDOT. (P/F)

K. Generate a base map for each project location, created electronically using the Micro Station design software and formatted as described in FORMAT Section, of the existing roadway using information from old plans, and/or on-site field reviews. The base maps are used to visually describe the existing roadway within the limits of the project. The project limits for each project location for this task shall be defined as the greatest of either 400 feet beyond the Point of Beginning (POB) and the Point of Ending (POE) or the limits needed to fully accommodate the maintaining traffic limits as determined in Attachment E. The detail of the base maps is to include the location of existing roadways, bridges, railroads, and cross roads. The base maps are to show existing features; i.e. edge of pavements, edge of shoulders, curb lines, drainage courses etc. The base maps are to represent existing conditions and no proposed work is to be shown. (B/P/F)

1. Generate base sheets for each project location, using the base maps and formatted as described in FORMAT Section, for the entire project limits. (B/P/F)

2. Prepare existing and proposed general typical cross sections for each project (B/P/F)

3. For each project location, review and document the existing drainage system (open or enclosed) and identify areas of possible improvements. For minor drainage improvements, incorporate the fix into the estimates. For major drainage improvements, document the location, condition, recommended treatment and cost estimate (include whether sewer video taping is recommended and its estimated cost). Send a letter identifying where major drainage improvements are recommended (list the location, condition and recommended treatment) to the Project Manager. With approval from Project Manager, incorporate the fixes into the estimates. (P/F)

4. Perform storm water design calculations, including appropriate outlets and energy dissipation as necessary, as outlined in the MDOT Drainage Manual. Detention may be required. Detention pond design must meet, but is not limited to, local agency storm water regulations and Michigan Department of Environmental Quality water quality

permit requirements. All design calculations, drainage maps and proposed profiles shall be included in the Preliminary and Final Scoping Reports under Attachment A.

5. For each project location, document and identify any possible utility conflicts and estimate the cost of relocation and/or adjustment. (P/F)

6. If water mains and/or sanitary sewers are present within the project limits, the CONSULTANT shall evaluate the necessity for the relocation of water mains and sanitary sewers, in accordance with MDOT Design Division's Informational Memorandum #441B and #402R dated April 13, 1992. Identify the limits, an explanation for the relocation and a cost estimate for each location within the "Utilities" section of the scoping report. (P/F)

7. For each project location, submit requests to applicable utility owners for preliminary utility information. Submittals to the utility company shall include: a completed MDOT approved form, and a minimum of two (2) copies of location map, base map and base sheets (see Attachment H). Complete after acceptance of Base Scoping Report.

8. For each project location, review and document scope conformance to design elements as listed in Attachment G and MDOT's 3R/4R Guidelines.

   For each project location, a Level One Design Criteria Checklist (see Attachment B) and a Design Criteria Table (see Attachment B) will be included in the Scoping Report (see Attachment A for location within the Report).

   Calculations (computer generated or hand calculations) that support review of the existing and proposed condition conformance to the Level One Design Criteria will be submitted as part of the "Supplemental Project Scoping Information".

   Documentation for the Level One Design Criteria shall include Existing Condition, Treatment as per Design Standards, and Proposed Treatment (if required). The Proposed Treatment will be in accordance with the current MDOT design standards. If needed, identify what is needed to bring the item into conformance with current standards (i.e. additional ROW, utility relocation, etc). (B/P/F for existing; P/F for proposed)

9. For each project location, review and document the roadside safety related items (i.e. guardrail, barriers, attenuators, etc.) which need to be modified or included in the project. Documentation to include location, existing type and condition, and the recommended treatment. This information shall be included in the appropriate area of the Attachment A and shall also be entered into a separate spreadsheet and submitted as part of the Final Deliverable Report. (P/F)

10. For each project location, perform crash analysis and recommend countermeasures. This shall include, but not limited to, the following:

a. Performing Crash Analysis (see Attachment J). This shall include the last three (3) years of reliable data for the analysis period. If there is a fatality within those three (3) years, the analysis shall include the details of the specific fatality. The CONSULTANT will be furnished three (3) years of data.

b. Determine ROW impacts based on the Crash Analysis. Determine ROW impacts for each countermeasure identified. Determine the construction cost estimate for each countermeasure. Summarize countermeasures which shall include each crash pattern and countermeasure individually listed, along with their associated ROW impacts and construction cost estimate. ROW impacts shall be documented in terms area of potential need along with the type of ROW required (grading permit, easement, or fee). The ROW appraisal will be prepared by MDOT. The construction cost estimate for each countermeasure recommendation shall be presented in the Preliminary Scoping Report and shall be reviewed and approved by MDOT prior to inclusion in the Final Scoping Report. (P/F)

11. For each project location, document and identify locations of possible environmental issues (i.e. wetlands, historic properties, 4f properties, regulated streams, etc.) which may impact the project, and estimate the cost of treatment. This information shall be included in the appropriate area of the Scoping Report (see Attachment A). (P/F)

12. For each project location if excavation is required, submit the excavation locations (list them by street address) which may contain contamination. This information shall be included in the appropriate area of the Scoping Report (see Attachment A). (P/F)

13. For each project location, document and identify (location and who has responsibility for) any existing lighting that has potential for being impacted, or should be included, in the project. Incorporate work into the estimate. (Lighting on Non-Freeway roads is the responsibility of the local jurisdiction). (P/F)

14. For each project location, develop at least one Maintaining Traffic Concept for each fix type and complete the Maintaining Traffic Worksheet for each concept. Each of the Maintaining Traffic Concepts and Maintaining Traffic Worksheets shall be developed as per Attachment E. (B/P/F)

15 For each project location and fix type, compute and verify all quantities necessary to complete the Project Concept Statement and Project Scoping Checklist. See Attachment K for the blank forms and an example of the data types required. (P/F)

16. For each project location, specifically identify any local participation that is required and/or requested for the project location. Examples where local participation is required are: water, sanitary, storm sewer upgrades, work beyond the spring points on local streets, and/or drainage. For each agency (there may be more than one per project location), individually identify the type of work/improvement, itemize the costs and then separately estimate the amount of the respective agencies participation. (P/F)

17. For each project location, identify, contact and coordinate with all affected governmental agencies (County, and/or city, township) within the project limits (and directly abutting, if any part of the construction influence area will be within another agencies area). Coordination will comply with the meeting and public involvement criteria as outlined in Attachment F. Any and all local requests shall be reviewed with MDOT before any commitment to work shall be given to the affected agencies. MDOT will be informed of any meeting with the affected agencies a minimum of 1 week in advance of the meeting. All discussions with agencies shall be documented and submitted with the monthly progress reports. (P/F)

18. For each project location, incorporate any MDOT identified and/or approved (if approved, include copy of MDOT approval) local needs/requests into project scope. (P/F)

19. For each project location, provide photographs and digital files (.jpg files) of the existing roadway and roadside conditions to document the needs as identified in the project scope. (B/P/F)

20. Prepare a summary for each project location. Each line of the summary shall contain the following information: control section, job number, freeway or non-freeway, route, location, affected governmental agencies, work description, Beginning Mile Point, Ending Mile Point, length, lane miles, construction cost, construction cost per lane mile, and potential ROW areas/ types. Each summary shall be prepared as stated in FORMAT. The information shall be entered into a separate file and submitted as part of the Final Deliverable Report for each project location. (B/P/F)

21. For each public open house as established on Attachment F, provide a summary of comment and response to document public comments and actions taken in response to public comments. (P/F)

22. For each project location, identify enhancement opportunities for partnering with local agencies.

MDOT RESPONSIBILITIES:

A. Schedule and/or conduct the following:
    1. Project related meetings.
    2. Coordinate all scoping activities that require MDOT personnel.

B. Furnish prints or electronic files of old plans and a copy of the Control Section Log of the area, if available.

C. Supply information on existing pavement structure as necessary/available.

D. Furnish a list of the utility companies present within the control section(s) of the project.

E. Furnish ROW maps of the area

F. Furnish project selection justification data, including Pavement Management System data and Sufficiency Rating data.

G. Furnish inspection reports for the structures in the area, for information purposes.

H. For each project location, furnish hard data for Crash Analysis.

I. Furnish list of people invited to each Scope Review Meeting.

J. Furnish the Project Area Contamination Study (PACS).

UTILITY COORDINATION:

The CONSULTANT shall be responsible for requesting the location of all existing utilities within the limits of the project. The CONSULTANT shall make recommendations to resolve potential utility conflicts.

PAYMENT SCHEDULE:

Compensation for this Scope of Services shall be on an **actual cost plus fixed fee** basis.

CONSULTANT PAYMENT:

All invoices/bills for services must be directed to the Department and follow the 'then current' guidelines. The latest copy of the "Professional Engineering Service Reimbursement Guidelines for Bureau of Highways" is available on MDOT's Bulletin Board System. This document contains instructions and forms that must be followed and used for invoicing/billing; payment may be delayed or decreased if the instructions are not followed.

Payment to the Consultant for Services rendered shall not exceed the "Actual Cost Plus Fixed Fee, Not to Exceed Maximum Amount" unless an increase is approved in accordance with the contract with the Consultant. All invoices/bills must be submitted within 14 calendar days of the last date of services being performed for that invoice.

Direct expenses will not be paid in excess of that allowed by the Department for its own employees in accordance with the State of Michigan's Standardized Travel Regulations. Supporting documentation must be submitted, with the invoice/bill, for all billable expenses on the Project. The only hours that will be considered allowable charges for this contract are those that are directly attributable to the activities of this Project.

The use of overtime hours is not acceptable unless prior written approval is granted by the MDOT Region Engineer/Bureau Director and the MDOT Project Engineer Manager. Reimbursement for overtime hours that are allowed will be limited to time spent on this project in excess of forty hours per person per week. Any variations to this rule should be included in the priced proposal submitted by the Consultant and must have prior written approval by the MDOT Region Engineer/Bureau Director and the MDOT Project Engineer Manager.

The fixed fee for profit allowed for this project is 11.0% of the cost of direct labor and overhead.

ATTACHMENT A
CS 80032 - JN 89295

I-196 BL from M-140 to 73rd Street and M-43 from I-196 to I-196 BL in the City of South Haven, and South Haven Township, in Van Buren County.

The Preliminary and Final Scoping Reports

The Base, Preliminary, and Final Scoping Reports shall contain the following, and shall be assembled in the order as listed. Please note these are not tabbing sections, but report sections.

The scoping report is the complete written description and explanation of the entire project scope, as well as a comparison as needed between multiple courses of action where relevant.

A unique scope report is to be written and shall follow the format as shown below.

The scope report is to be written using complete sentences and sentence structure. In addition, simple, clear, and concise language is required to ensure that the report is both readable and understandable.

Also the listed format contains many sections, which may or may not apply to the project. Sections, which do not apply, may be omitted from the report as directed by the Project Manager. Information, which has no apparent section, may be placed within a related section, or within a newly created section. Keep the addition of new sections to a minimum.

Project Description
Provide a general statement regarding the project type, length, and nature of work being proposed in the scoping of the project. Average length should be no more than one to three sentences.

Project Limits
Establish the projects limits (roadway name, roadway number, project beginning, project ending, mile points (both Control Section and PR), project length, major cross streets, local municipalities affected, etc.). List also if this roadway is an NHS route, a non-NHS route, or if it registered as a National Historic Highway.

Design Speed
List the following information for each of the major roadways within the project limits:
Posted Speed (mph) = _____ Design Speed (mph) = _____

If speeds change within the project limits, list all segments and associated mile points.

Pavement Treatments
Address each pavement treatment for each course of action.

Cross Section
A brief description of the existing and proposed cross section (pavement type, lane width, curb and gutter, catch basins, storm sewer location, side slopes, ditch location, setback to existing right of way line, etc.) for each course of action being proposed as potential scope alternatives. Include a statement regarding the impact the proposed pavement treatment will have upon existing, or proposed, curb and gutter. Include a brief statement to establish the presence and location of existing pedestrian sidewalk, and existing sidewalk ramp terminals at sidewalk street intersections. Note: At locations of sidewalk street intersections, if not already present, ramp terminals will be installed.

Discussion of the existing and proposed cross sections through the project length will also address the existing pavement crown and super elevation, and the impact that the proposed project will have upon it (to include any potential corrections or recommended adjustments).

Include a statement addressing the existing slopes and ditches, and the impact that the proposed project will have upon them (include any potential corrections or recommended adjustments).

Vertical Alignment
Address the existing vertical alignment of the roadway and the impact that the proposed project will have upon it (include any potential corrections or recommended adjustments). The basis of any correction should be reflective of existing conditions being substandard (i.e. K value too low, not enough sight distance, etc).

Horizontal Alignment
Address the existing horizontal alignment of the roadway, and the impact that the proposed project will have upon it (include any potential corrections or recommended adjustments).

Major Intersections
List all major (signalized) intersections within the limits of the project. Include a brief description of the existing intersections and the impact that the proposed project will have upon them (include any potential corrections or recommended adjustments). Discuss alterations based on analysis of the existing geometric conditions and the existing and future traffic volumes through the intersection. Include any potential economic growth impacts that are expected by local governmental agencies. Include in the intersection analysis and discussion, additional recommended geometric improvements, in particular the recommended countermeasures as identified through the crash analysis, and the impact that these improvements will have on the proposed project.

Minor Intersections
List the number of minor intersections present within the limits of this project. Include a brief description of the type of intersections and the impact that the proposed project will have upon them (include any potential corrections or recommended adjustments). Discuss alterations based on analysis of the existing geometric conditions and the existing and future traffic volumes through the

intersection. Include any potential economic growth impacts that are expected by local governmental agencies. Include in the intersection analysis and discussion, additional recommended geometric improvements, in particular the recommended countermeasures as identified through the crash analysis, and the impact that these improvements will have on the proposed project.

Driveways
List the number and type of driveways present within the limits of this project. Include a brief description of the type of driveways and the impact that the proposed project will have upon them. Where access management concerns exist, note concerns, and make recommendations (to include any potential corrections or recommended adjustments or closures).

Guardrail, Barriers and Attenuators
Discuss the existing guardrail, barriers and attenuators and the impact that the proposed project will have upon them (include any potential corrections or recommended adjustments). Make note of locations where culvert extensions and/or slope flattening would be recommended to eliminate the need for guardrail.

Other Safety Improvements
Address additional recommended geometric improvements, in particular the recommended countermeasures as identified through the crash analysis, and the impact that these improvements will have on the proposed project. DO NOT reiterate recommendations from crash analysis reflected in other portions of the report (i.e. typical section changes, intersection improvements, etc).

Bridges
List all existing bridges within the limits of this project in which the roadway crosses over a bridge. Explain for each bridge how the pavement transition into the bridge deck will be addressed. Provide lane and shoulder widths on bridges.

List all existing bridges within the limits of this project in which the roadway passes under a bridge. List the existing under clearance for each bridge; explain how the pavement will be treated below the bridge; and how the issue of bridge under clearance will be addressed. Provide lane and shoulder widths under bridges.

Drainage
Address the existing drainage throughout the project length. Include any potential corrections or recommended adjustments that are required in order to alleviate any existing drainage issues within the project limits. Note drainage issues that need to be addressed and are not specific to any course of action being presented to deal with pavement life span.

Environmental Issues
Address any existing environmental issues and the impact that the proposed project will have upon them. Include any potential corrections or recommended adjustments to mitigate environmental impacts. Make note of potential permit needs.

Local Concerns
Address local concerns or issues that were raised through the public involvement process as outlined in Attachment F. All issues raised do not need to be addressed here as all comments and responses are captured in Appendix C. Discuss only those issues that resulted in scope changes or have potentially significant impact on the proposed project.

Maintenance of Traffic
Provide the maintenance of traffic recommendations developed through the process as outlined in Attachment E.

Right-of-Way Needs
For the roadway in general for each recommended geometric/safety improvement (include the crash analysis recommended countermeasures, slope flattening recommendations and culvert extensions), each intersection, each commercial and/or residential driveway, each signal and each sign; write a brief statement addressing the existing right-of-way, and the impact that the proposed project will have upon it (include any potential corrections or recommended adjustments). If additional right-of- way is required note the type that will be needed (fee take, grading permit, permit to grade drive, etc.).

Signage Recommendations
Address the existing traffic signs and the impact that the proposed project will have upon them (include any potential corrections or recommended adjustments). Any modifications or replacements of overhead sign structures will be included in this discussion.

At Grade Rail Road Crossings
Address the existing at grade railroad crossings and the impact that the proposed project will have upon them (include any potential corrections or recommended adjustments).

Utilities
Address the existing utilities present within the roadway right of way and the impact that the proposed project will have upon them (include any potential corrections or recommended adjustments).

Detail Cost Summary
Provide a summary of the estimated construction cost after scoping for each course of action, list the number of lane miles within the project limits, and a price per lane mile.

Appendix A: Level One Design Criteria Checklists
Provide the Level One Design Criteria Checklists as shown in Attachment B. Note that there is a checklist for existing and proposed conditions. Design exceptions will not be allowed and all courses of action being presented in the scoping reports must have provisions to eliminate any design exception

conditions as determined by the Engineer.

Appendix B: **Final Design Criteria**
Provide a summary of the design criteria utilized to evaluate and constrain the scope for each course of action. Use the format provided in Attachment B.

Appendix C: **Public Involvement Public Comments**
Include comments made at each meeting that solicited public comment. Provide response to each public comment that states how that comment was integrated into the project scope, or how that comment was used to affect the scope in some fashion.

Appendix D: **Detail Cost Estimate**
Estimates are to be as detailed as possible. They shall be developed using the most recent MDOT pay items and are to be provided in spreadsheet format. Individual pay item costs shall be rolled up into a construction cost estimate.

Appendix E: Detailed Design Hours Estimate
Estimates are to be as detailed as possible, attempt to breakdown hours per PPMS tasks.

Appendix F: **Crash Analysis Data**
Summary of countermeasure recommendation(s) that shall include each location's crash pattern and countermeasure individually listed along with the associated ROW impacts (area and type) and construction cost estimate.

Appendix G: **Intersection Traffic Counts**
Summary diagrams showing a.m. and p.m. peak traffic counts for each major intersection within the project limits.

Appendix H: **DARWin Pavement Design Output**

Appendix I: **Field Notes & Photographs**
Provide actual photographs and digital files (.jpg files on attached CD ROM) of the existing roadway and roadside conditions to document the needs as identified in the project scope. The photographs included in the documents shall be 4" x 6", in color, labeled with the location, direction from which the picture was taken, date, particular feature needing improvement and the approximate mile point. No fewer than 8 and no greater than 24 photos per project location are required.

Appendix J: **Base Sheets**

Location Map: A location map shall show a map of the project area showing the roadway name, roadway number, project beginning, project ending, project length, major cross streets, interchanges and local municipalities affected. The Location Map shall be presented on a regular letter size paper (8 ½" x 11")

Typical Cross Sections: Prepare existing typical cross sections and proposed typical cross sections - generally one per standard cross section area (i.e. if the road changes from a three lane to a five lane section, a cross section for the three lane and for the five lane sections will be needed) for each course of action being presented as potential scope alternates.

The typical cross sections, for each standard cross section area, are to be created on 8 ½" x 11" sheets, with the existing typical cross section for the standard cross section area, drawn above the proposed typical cross section for the same standard cross section area.

The existing typicals for each standard cross section shall detail the existing conditions (pavement type, lane width, curb and gutter, shoulders, side slopes, ditch locations, setback to existing right of way limits, storm sewer/drainage structure locations, etc.). The proposed typicals for each standard cross section shall detail the proposed pavement treatments (cold mill, resurface or reconstruct, etc.). The proposed typicals shall also show new lane widths, curb and gutter/shoulders, drainage structures (new, adjusted or tapped into existing), storm sewers and ditches, etc. (See Appendix A for an example).

The MDOT reviewer, by viewing the typical cross sections, should be able to understand the existing pavement section, the proposed pavement section, and all of the work that is expected to implement the project. For example, if additional right of way will be required, the typicals should provide a visual explanation as to why so that the MDOT reviewers can evaluate options.

Base Map: Generate a single Base Map, created electronically using the Micro Station design software and formatted as described in Section VIII. FORMAT, of the existing roadway using information from old plans, and/or, on site field reviews. The Base Map is used to visually describe the existing roadway within the limits of the project on one page. The project limits for this task shall be defined as the greatest of either 400 feet beyond the Point of Beginning (POB) and the Point of Ending (POE) or the limits needed to fully accommodate the maintaining traffic limits as determined in Attachment E. The detail of the Base Map is to include the location of existing roadways, bridges, railroads and cross roads. The Base Map is to show all existing

features; i.e. edge of pavements, edge of shoulders, curb lines, drainage courses etc. and label all roads, railroads and drainage features. The Base Map is to represent existing conditions without showing proposed work.

An 11" x 17", a reduced size copy, of the electronically created base map, showing the entire project limits, on 1 page, is to be provided. If it is recommended that the project can be designed in log job format, then an 8 ½" x 11", full size copy, of the electronically created base map, showing the entire project limits on one (1) page, is to be provided.

Maintenance of Traffic Typical Sections and Base Map: Requirements for these sheets are the same as for the corresponding sheets (typical sections and Base Map). All maintenance of traffic courses of action are to be detailed with sets of typical sections and base maps providing base detail of the course of action.

ATTACHMENT B
CS 80032 - JN 89295

I-196 BL from M-140 to 73rd Street and M-43 from I-196 to I-196 BL in the City of South Haven, and South Haven Township, in Van Buren County.

LEVEL ONE DESIGN CRITERIA CHECKLIST

The following format will be utilized to report conformance for existing and proposed conditions for the FHWA'S level one design criteria. No other format will be accepted. Calculations supporting these checklists will be provided in the "Supplemental Project Scoping Information" (see Attachment D).

FINAL DESIGN CRITERIA

The following format will be utilized to display the design criteria used to constrain the project scoping process. No other format will be utilized for this purpose. If additional design criteria are needed to fully convey the constraints of the design, they may be added to the table.

Level One Design Criteria Checklist – Existing Conditions

Road			Design Unit	
Design Year AADT			CS	
Date			JN	
			Page	

Enter the lane width provided, etc. in the appropriate column.

Design Criteria (Provide numerical value for project, where indicated)	Reference	Do the existing conditions meet MDOT criteria?		
		Yes	No	N/A
1. Design Speed: Mainline: mph Ramps: mph				
2. Lane Width Mainline: ft Ramps: ft Auxiliary lanes: ft				
3a. Uncurbed Sections – Shoulder Width adjacent to: Mainline: ft Ramps: ft Auxiliary lanes: ft				
3b. Curbed Sections – Curb Offset: Mainline: ft				
4. Bridge Clear Roadway Widths				
5. Structural Capacity				
6. Horizontal Curvature (minimum Radius)				
7. Super Elevation Rate				
8a. Stopping Sight Distance – Horizontal Curves				
8b. Stopping Sight Distance – Vertical Curves				
9. Maximum Grades				
10. Through Travel Lane Cross Slope ft				
11. Vertical Clearances				

12. Accessibility Criteria for Handicapped Individuals				

Level One Design Criteria Checklist – Proposed Design

Road			Design Unit	
Design Year AADT			CS	
Date			JN	
			Page	

Enter the lane width provided, etc. in the appropriate column.

Design Criteria (Provide numerical value for project, where indicated)	Reference	Does proposed design meet MDOT criteria?		
		Yes	No*	N/A
3. Design Speed: Mainline: mph Ramps: mph				
4. Lane Width Mainline: ft Ramps: ft Auxiliary lanes: ft				
3a. Uncurbed Sections – Shoulder Width adjacent to: Mainline: ft Ramps: ft Auxiliary lanes: ft				
3b. Curbed Sections – Curb Offset: Mainline: ft				
8. Bridge Clear Roadway Widths				
9. Structural Capacity				
10. Horizontal Curvature (minimum Radius)				
11. Super Elevation Rate				
8a. Stopping Sight Distance – Horizontal Curves				
8b. Stopping Sight Distance – Vertical Curves				
13. Maximum Grades				
14. Through Travel Lane Cross Slope ft				
15. Vertical Clearances				
16. Accessibility Criteria for Handicapped Individuals				

* If a design criterion is not met, documentation must be provided that the TSC is aware and has approved the project scope aware of the sub-standard item.

FINAL DESIGN CRITERIA

ITEM	REFERENCE	STANDARD	EXISTING	PROPOSED
DESIGN YEAR 2025 AADT				
DESIGN YEAR 2025 COMMERCIAL AADT (%)				
DESIGN SPEED (MPH)	MDM SECTION 3.06, 3.11.03 AASHTO TABLE X-1			
DESIGN LEVEL OF SERVICE	AASHTO TABLE II-6			
HORIZONTAL ALIGNMENT				
MAX. DEGREE OF CURVE	MDM SEC. 3.03.01A			
MIN. LENGTH OF CURVE (FT)	MDM SEC. 3.03.01B			
MAX. DEGREE OF CURVE W/O SPIRAL	MDM SEC. 3.04.04			
MAX. SUPERELEVATION (%)	MDM SEC. 3.04 & STD. R-107			
MAX. ROLLOVER BETWEEN PAVEMENT AND SHOULDER (%)	STANDARD R-107			
MAX. ROLLOVER BETWEEN PAVEMENTS CROSS SLOPES (%)	STANDARD R-107			
VERTICAL ALGINMENT				
MAX. PERCENT GRADE - UP (%)	AASHTO TABLE VIII-1 AASHTO P.922			
MAX. PERCENT GRADE - DOWN (%)	AASHTO TABLE VIII-1 AASHTO p.922			
MIN. PERCENT GRADE	AASHTO p.235			
STOPPING SIGHT DISTANCE (FT)	STANDARD G-700			
K-VALUE (CREST)	AASHTO EXHIBIT 3-76			
K-VALUE (SAG)	AASHTO EXHIBIT 3-79			
VERTICAL CLEARANCE (FT-IN) OVER PAVEMENT	MDMBRIDGE DESIGN SEC 7.01.08			
VERTICAL CLEARANCE (FT-IN)	MDMBRIDGE			

OVER SHOULDER	DESIGN SEC 7.01.08			
CROSS-SECTION ELEMENTS				
TOTAL NUMBER OF LANES	FIELD VERIFIED			
LANE WIDTH (FT)	MDM SEC. 3.07.A			
MEDIAN SHOULDER WIDTH (FT)	STANDARD R-110B MDOT PLANS			
RIGHT SHOULDER WIDTH (FT)	STANDARD R-110B MDOT PLANS			
MEDIAN SIDE SLOPE	MDM SEC. 2.03.01 MDOT PLANS			
RIGHT SIDE SLOPE	MDM SEC. 2.03.01 MDOT PLANS			
BACKSLOPE	MDM SEC. 2.03.01			
DITCH WIDTH (FT)	MDM SEC. 4.04.02 STANDARD R-105			
MIN. DITCH GRADE (%)	MDM SEC. 4.04.01			
NORMAL CROSS SLOPE (PAVEMENT) (%)	MDM SEC 3.11.03.E, STANDARD R-107E			
NORMAL CROSS SLOPE (SHOULDER) (%)	STANDARD R-107E STANDARD R-110			
MISCELLANEOUS				
STOPPING SIGHT DISTANCE	AASHTO TABLE III-1 & MDOT DESIGN GUIDE VII-700			
CLEAR ZONE DISTANCE (FT)	MDM SEC 7.01.11			
RAMP TERMINAL DETAILS	STANDARD V11-370			

ATTACHMENT C
CS 80032 - JN 89295

I-196 BL from M-140 to 73rd Street and M-43 from I-196 to I-196 BL in the City of South Haven, and South Haven Township, in Van Buren County.

MONTHLY PROGRESS REPORTS

The first two pages of this attachment are the necessary layout of the Monthly progress reports and the last three pages are a completed example.

Control Section 00000
Job Number 00000C
Structure Number S00
Date 00/00/00

MONTHLY PROGRESS REPORT

A. Work accomplished during the previous month.

B. Anticipated work items for the upcoming month.

C. Real or anticipated problems on the project.

D. Update of previously approved detailed project schedule (attached), including explanations for any delays or changes.

E. Items needed from MDOT.

F. Copy of Verbal Contact Records for the period (attached).

CS 80032 - JN 89295

I-196 BL from M-140 to 73rd Street and M-43 from I-196 to I-196 BL in the City of South Haven, and South Haven Township, in Van Buren County

Scoping Schedule as of 00/00/00

Original Authorized Start Date	Original Authorized Finish Date	(Anticipated) or **Actual** Start Date	(Anticipated) or **Actual** Finish Date	Task Description
00/00/00	**00/00/00**	00/00/00	**00/00/00**	Initial Project Meeting
00/00/00	**00/00/00**	00/00/00	**00/00/00**	Maintaining Traffic Meeting
00/00/00	**00/00/00**	00/00/00	**00/00/00**	Fieldwork and Documentation
00/00/00	**00/00/00**	00/00/00	**00/00/00**	First Local Coordination Letters
00/00/00	**00/00/00**	00/00/00	**00/00/00**	Review/Check/Analyze Field Data
00/00/00	**00/00/00**	00/00/00	**00/00/00**	Generate base map, base sheets, cross sections, and maintaining traffic typicals
00/00/00	**00/00/00**	00/00/00	**00/00/00**	Perform crash analysis and determine countermeasures
00/00/00	**00/00/00**	00/00/00	**00/00/00**	Prepare Maintaining Traffic Write Up
00/00/00	**00/00/00**	00/00/00	**00/00/00**	Submit Utility Requests
00/00/00	**00/00/00**	00/00/00	**00/00/00**	Submit Preliminary Scoping Report
00/00/00	**00/00/00**	00/00/00	**00/00/00**	Scope Review Meeting
00/00/00	**00/00/00**	00/00/00	**00/00/00**	Second Local Coordination Letters
00/00/00	**00/00/00**	00/00/00	**00/00/00**	Submit Final Scoping Report
00/00/00	**00/00/00**	00/00/00	**00/00/00**	Third Local Coordination Letters
00/00/00	**00/00/00**	00/00/00	**00/00/00**	Submit Final Deliverable Report

SAMPLE

Control Section 12345
Job Number 11111C
Structure Number S02
Date:

MONTHLY PROGRESS REPORT

A. Work accomplished during the previous month.

1. During the last month we completed the Final Right of Way plans and submitted them to Mr. Project Manager on 00/00/00.

B. Anticipated work items for the upcoming month.

1. Submit the Preliminary Plans and related material on 00/00/00.

2. Attend the meeting regarding the Ameritech lines on the bridge, scheduled for 00/00/00.

C. Real or anticipated problems on the project.

1. We foresee no problems at this time.

D. Update of previously approved detailed project schedule (attached), including explanations for any delays or changes.

1. The design is falling behind schedule because we had problems resolving the geometries of the ramps in relation to the bridge. The Preliminary Plan submittal will be the only task affected by this delay because we will make up the lost time prior to submitting the Final Plans and Specifications.

E. Items needed from MDOT.

1. Prior to final Plan submittal we will need the latest Special provision and Supplemental Specification checklist.

F. Copy of Verbal Contact Records for the period (attached).

1. Discussed bridge and ramp geometries with Traffic Safety Eng. of MDOT Traffic and Safety Division on 00-00-00.

VERBAL CONTACT RECORD

Control Section XXXXX

Job Number XXXXX

Structure Number N/A

Date 00/00/00

Joe Engineer talked to Joe Safety and decided to use a 0.05/ft super on ramp A leading into the bridge.

ATTACHMENT D

CS 80032 - JN 89295

I-196 BL from M-140 to 73rd Street and M-43 from I-196 to I-196 BL in the City of South Haven, and South Haven Township, in Van Buren County.

SUPPLEMENTAL PROJECT SCOPING INFORMATION

The following information is to be provided in notebook format after acceptance of the Final Scoping Report by the Project Manager:

1. **3R/4R Breakdown and Scope Conformance to Design Elements**
   For the Preliminary Scoping Report, documentation shall include existing condition, treatment as per design standards, and proposed treatment. If the proposed treatment is not in accordance with the treatment as per design standard, an additional section shall be added entitled "Reason for not Meeting Design Standards". This section shall provide documentation for the justification for not being in conformance.

2. **Project Concept Statement and Project Scoping Checklist**
   Compute and verify all quantities necessary to complete the Project Concept Statement and Project Scoping Checklist for each of the projects (see Attachment I).

3. **Correspondence** (MDOT, Utility, Local, and Other)
   Actual correspondence sent and received, organized by correspondent, in order of latest date first.

4. **Quantity Calculations**

ATTACHMENT E
CS 80032 - JN 89295

I-196 BL from M-140 to 73rd Street and M-43 from I-196 to I-196 BL in the City of South Haven, and South Haven Township, in Van Buren County.

DEVELOP MAINTAINING TRAFFIC CONCEPT

1. **Scope**
   This procedure covers the development of a concept to maintain and control traffic during construction.

2. **Work Steps**
   A. Review the type of construction task(s) included in the project.

   B. Contact the Project Manager and request a meeting with the Coloma TSC Traffic & Safety Engineer and Delivery Engineer (allow a minimum of two (2) weeks for a meeting date to be determined). Review the traffic data and the project site to determine project specific construction zone traffic requirements. Requirements shall be consistent with the constraints identified at the meeting with the Coloma TSC Traffic & Safety Engineer. Any necessary or recommended exceptions shall be clearly identified and justification provided.

   C. Prepare preliminary written recommendations for maintaining traffic. Items that WILL be included in the recommendations at a minimum are:
      1) Constraints as identified by the Coloma TSC Traffic and Safety Engineer.
      2) Method for maintaining traffic. Typical and non-typical areas shall be addressed. All areas where the pavement widths are narrower than typical shall be clearly noted and the recommendations for maintaining traffic shall address these areas.
      3) Exceptions to constraints as identified by the Coloma TSC Traffic and Safety Engineer. Justification shall be required for any exceptions.
      4) Need for detour, staging and/or flagging operation.
      5) Need for temporary widening and/or shoulder upgrading.
      6) Time constraints and laneage requirements (number and width).
      7) Method for maintaining traffic at cross streets.
      8) Local considerations (school buses, emergency vehicles, large traffic generators, etc.).
      9) Need for temporary traffic signals (a minimum of two signal heads in view at all times).
      10) Construction zone speed limits.
      11) Special events (parades, festivals, etc.).
      12) Recommendations for expedited construction.

   D. Based on the preliminary written recommendation (developed above), prepare maintaining traffic typicals. Typicals shall be prepared using the existing typical cross sections developed in item 11 under Section XI CONSULTANT RESPONSIBILITIES (GENERAL) as a base. Each of the items

recommended in Section 2, Task C, of this attachment shall be superimposed onto those typicals.

E. Submit the written recommendations for maintaining traffic as developed in Section 2, Task C, of this attachment and the maintaining traffic typicals as developed Section 2, Task D, of this attachment with the Preliminary Scoping Report.

F. Receive any items returned by the Coloma TSC Traffic and Safety Engineer and/or from meetings at which maintaining traffic has been discussed, as incomplete or deficient and make the necessary revisions.

G. Submit the revised recommendations and maintaining traffic typicals with the Final Scoping Report.

MAINTAINING TRAFFIC WORK SHEET

Author: _____ Return by (date): _____

Date Completed: _____
Reviewed by: *Initials* *Date*

Coloma TSC Development Engineer	_____	_____
Coloma TSC Traffic/Safety Engineer	_____	_____
Coloma TSC Manager	_____	_____
Adjacent TSC Traffic/Safety Engineer	_____	_____

Project Location: _____

Job Number: _____ Control Section: _____

Type of Work: _____

Length of Project: _____

Number of Lanes: *Existing* _____ *Proposed* _____

Lane Widths: *Existing* _____ *Proposed* _____

Number of lanes during construction: _____ Lane widths during construction: _____

Shift traffic to shoulder during construction: *yes* *no*

Traffic regulator operation required: *yes* *no*

Length of traffic regulator operation: _____

Capacity of traffic regulator operation: _____

ADT: _____ a.m. peak hours: _____ p.m. peak hours: _____
Is capacity greater than peak hour volumes? *yes* *no*

Traffic Characterization (commuter, tourist, retail, industrial): _____

Load Restrictions: *Height* _____ *Weight* _____ *Width* _____
Other projects in vicinity? *yes* *no* MDOT ___ Local ___ Permits ___ Maintenance ___
Coordination clause required? *yes* *no* Clause written: _____

Project Description: _____
_____
_____

Traffic Signal Locations	Loops		Temporary/Permanent Modifications Required		Contact Signals Unit	
_____	*yes*	*no*	*yes*	*no*	*yes*	*no*
_____	*yes*	*no*	*yes*	*no*	*yes*	*no*
_____	*yes*	*no*	*yes*	*no*	*yes*	*no*
_____	*yes*	*no*	*yes*	*no*	*yes*	*no*
_____	*yes*	*no*	*yes*	*no*	*yes*	*no*
_____	*yes*	*no*	*yes*	*no*	*yes*	*no*
_____	*yes*	*no*	*yes*	*no*	*yes*	*no*

Railroad Crossings? *yes* *no*

Locations: _____
_____
_____

Railroad flagging special provisions needed? *yes* *no*

Pedestrians? *yes* *no* Pedestrian Counts: _____

Schools: _____
_____

Transit Routes/Bus Stops? *yes* *no* CATA, EATRAN: _____

Locations: _____
_____

Jurisdictions Affected (county, city, township, and municipality): _____
_____

_____

Local Contact Person(s): _____ Phone: _____

_____ _____

_____ _____

Local Ordinances: _____

_____

_____

Adjacent Recreational Facilities? *yes* *no*

Locations: _____

_____

_____

_____

Major Traffic Generators: _____

_____

_____

Special Events (event, date, time, work restrictions, lane closure, restrictions, etc.): _____

_____

_____

_____

Proposed Maintaining Traffic Scheme: _____

_____

_____

Best Practice Maintenance of Traffic Scheme? *yes* *no*

Work Restrictions (days/hours of operation): _____

Weekend Work? *yes* *no*

Staging: _____

_____

_____

_____

_____

_____

Adjacent Alternate Routes Available? *yes* *no*

Alternate routes available: _____

_____

_____

Detour Needed: *yes* *no*

Proposed detour: _____

_____

_____

_____

Advanced Signing (PCMS, static): _____

_____

_____

Locations of Advanced Signs: _____

_____

_____

_____

_____

Incentive/Disincentive: *yes* *no* Type: _____

Details:

_____

_____

_____

_____

_____

User Delay Calculations Complete? *yes* *no*

User Delay Values:

_____

_____

_____

_____

Other Considerations:

_____

_____

_____

_____

_____

ATTACHMENT F
CS 80032 - JN 89295

I-196 BL from M-140 to 73rd Street and M-43 from I-196 to I-196 BL in the City of South Haven, and South Haven Township, in Van Buren County.

Public Involvement Schedule

Type of Meeting	Purpose	Attendees	Preliminary Date
Project Kick-Off	• Provide interface between MDOT team and Consultant team. • Provide opportunity for Consultant to identify issues/questions regarding contract.	• Consultant Project Team • TSC Manager • TSC Development Engineer	
Initial Stakeholder Input Forum	• Establish project stakeholder group • Establish stakeholder role in scoping process • Identify preliminary issues within project limits • Gain input for potential Courses of Action (COA's)	• Consultant Project Team • TSC Manager • TSC Development Engr • Southwest Region Planner • Stakeholders *(to be determined by project location)*	
Project Base Report Review	• Provide MDOT opportunity to discuss COA's set forth in Base Scoping Report.	• Consultant Project Team • TSC Manager • TSC Development Engr • TSC Traffic/Safety Engr • TSC Utility/Permit Engr • Southwest Region Resource Analyst	
Stakeholder Review of Base Report	• Provide opportunity for stakeholders to review COA's	• Consultant Project Team • TSC Manager • TSC Development Engr • Southwest Region Planner • Stakeholders	
Project Preliminary Report Review	• Provide MDOT opportunity to discuss COA's set forth in Preliminary Scoping	• Consultant Project Team • TSC Manager	

Type of Meeting	Purpose	Attendees	Preliminary Date
	Report.	• TSC Development Engr • TSC Traffic/Safety Engr • TSC Utility/Permit Engr • Southwest Region Resource Analyst	
Stakeholder Review of Preliminary Report	• Provide opportunity for stakeholders to review COA's	• Consultant Project Team • TSC Manager • TSC Development Engr • Southwest Region Planner • Stakeholders	
Public Open House Review	• Provide for public input into the COA's established for the project limits.	• Consultant Project Team • TSC Manager • TSC Development Engr • Southwest Region Planner • Stakeholders	
Post Public Forum Comment Review	• Review public comments from Open House • Review Consultant's recommended treatment of comments.	• Consultant Project Team • TSC Manager • TSC Development Engr • Southwest Region Planner	
Stakeholder Review of Final Report	• Provide opportunity for stakeholders to review COA's	• Consultant Project Team • TSC Manager • TSC Development Engr • Southwest Region Planner • Stakeholders	

ATTACHMENT G
CS 80032 - JN 89295

I-196 BL from M-140 to 73rd Street and M-43 from I-196 to I-196 BL in the City of South Haven, and South Haven Township, in Van Buren County.

MDOT uses the AASHTO 1993 "Guide for Design of Pavement Structures." The design software accompanying AASHTO is the *DARWin* pavement design program. The latest version of *DARWin* can be obtained from ERES Consultants, Inc.

Pavement Design Process

1. Request Equivalent Single Axle Loadings (ESAL's) - Project Manager.
2. Obtain appropriate soil borings/pavement cores. This should include recommendation for "Roadbed Soil Resilient Modulus" (flexible design) and "Mean Effective Modulus of Sub grade Reaction" (rigid design).
3. Obtain PMS data - Project Manager.
4. Obtain existing typical sections and plans.
5. Determine proposed preliminary typical section.
6. Determine appropriate design parameters for *DARWin*.
7. Use *DARWin* to determine proposed pavement section.

***DARWin* Pavement Design Inputs**

Flexible Pavement

1. ESAL's: Use the 20 year ESAL's as provided by Project Manager from MDOT Planning.
2. Initial Serviceability: 4.5
3. Terminal Serviceability: 2.5
4. Reliability level: 95%
5. Overall standard deviation: 0.49
6. Roadbed Soil Resilient Modulus: Use "Falling Weight Deflectometer" (FWD) data when possible. Otherwise a value for Resilient Modulus, M_r, of 3750 may be used. This value was provided by the Southwest Region Soils Engineer based upon predominant soil types located within the corridor.
7. Stage Construction: Use 1
8. Structural Coefficients:

Top & Leveling	0.42
HMA Base	0.36
Rubbilized Concrete	0.18 – 0.20

Aggregate Base	0.14
Sand Subbase	0.10

9. Elastic Modulus

Top & Leveling	390,000
HMA Base	275,000
Rubbilized Concrete	45,000 – 55,000
Aggregate Base	30,000
Sand Subbase	13,500

10. Drainage Coefficient (Table 2.4, Pg. II-25, AASHTO "Guide for Design of Pavement Structures"

Top & Leveling	1
HMA Base	1
Rubbilized Concrete	1
Aggregate Base	1
Sand Subbase	1

Rigid Pavement

1. ESAL's: Use 20 year ESAL's
2. Initial Serviceability: 4.5
3. Terminal Serviceability: 2.5
4. 28-day mean PCC Modulus of Rupture: 670
5. 28-day mean Elastic Modulus of Slab: 4,200,000
6. Mean Effective k-value (Figures 3.3 and 3.6 in AASHTO "Guide for Design of Pavement Structures"
7. Reliability Level: 95%
8. Overall Standard Deviation: 0.39
9. Load Transfer Coefficient, J: 2.7 for tied shoulder or wide (14') lane; 3.2 for untied shoulder
10. Overall Drainage Coefficient: 1.00 to 1.17
11. Stage Construction: Use 1
12. Effective Pavement Thickness-Condition Survey Method: Perform site review of existing pavement and planned amount of joint work (for concrete overlay).

ATTACHMENT H

CS 80032 - JN 89295

I-196 BL from M-140 to 73rd Street and M-43 from I-196 to I-196 BL in the City of South Haven, and South Haven Township, in Van Buren County.

Preliminary Utility Information Submittal

Submittals to all of the utility companies are to include:

1. A completed MDOT approved form to be provided by the Coloma TSC Utility and Permit Engineer.
2. Two (2) copies each (except for Consumers Energy that requires four (4)) of the following:
    - Location Map
    - Base Map
    - Base Sheets

Utility information is to be marked on the provided sheets and returned to:

MDOT Utility Coordinator: MDOT - Coloma TSC
Jarrett Burgess, Utility & Permit Engineer
3880 Red Arrow Highway
Benton Harbor, MI 49068

Requests for preliminary utility information are to be mailed prior to the delivery of the Final Scoping Report. Receipt of mailing and a copy of the completed MDOT approved form to be included with the Final Scoping Report, along with a list of all of the utility companies contacted.

MDOT is to provide the CONSULTANT with a list of the utility companies present within the control section(s) of the project.

ATTACHMENT I

CS 80032 - JN 89295

I-196 BL from M-140 to 73rd Street and M-43 from I-196 to I-196 BL in the City of South Haven, and South Haven Township, in Van Buren County.

Project Concept Statement / Project Scoping Checklist

These items will be provided to the CONSULTANT by the Project Manager.

ATTACHMENT J
CS 80032 - JN 89295

I-196 BL from M-140 to 73rd Street and M-43 from I-196 to I-196 BL in the City of South Haven, and South Haven Township, in Van Buren County.

Draft and Final Crash Analysis Reports

The Consultants shall provide MDOT with a Crash Analysis Report which shall detail the safety performance of the project location (includes not only the mainline but all ramps, major and minor intersections and crossovers within the project limits) and provide detailed graphic depiction of countermeasures and cost/benefit analysis for crash concentration locations. The Crash Analysis Report shall at a minimum compare the project location features (mainline, ramps, major intersections, minor intersections and crossovers) to regional averages, identify crash concentration locations, examine crash concentration locations for crash patterns and provide countermeasures for correctable crash patterns. The Consultants shall combine a thorough review of computer-based crash records with field reviews of the roadways characteristics (geometric and operational features shall be specifically noted) to identify crash concentration locations. Crash diagrams shall be provided for the crash concentration locations. The Consultants shall provide a Draft Crash Analysis Report and upon review and comment by MDOT, the Consultants shall make any changes identified and submit a Final Crash Analysis Report.

The Consultants shall review and analyze the most recent five years of MDOT crash data. For the analysis, the Consultants shall stratify the data by location and the crash data shall also be aggregated by similar roadway segment characteristics. The Consultants shall quarry SEMCOG to determine regional crash averages which will provide a normative measure of comparison to aid in the identification of crash concentration locations.

The Consultants shall identify crash concentration locations and determine crash patterns. Based on the crash patterns identified for each crash concentration location the Consultants shall develop proposed crash countermeasures. The countermeasures shall be graphically depicted, to scale, with sufficient detail to determine the countermeasures impact to the existing roadway and the proposed roadway improvement.

The countermeasures may range from simple sign / marking / signal modifications up through substantial reconstruction. The Consultants shall present countermeasures stratified into short and long-term solutions. The Consultants shall provide a construction cost estimate for each countermeasure using MDOT Pay Items and shall clearly identify any right-of-way impacts a countermeasure may have. The Consultants shall provide a full cost/benefit analysis for each countermeasure. The Consultants shall also evaluate the crash impacts on design exceptions sought.

Develop a Time of Return (TOR) analysis for each countermeasure using the MDOT TOR format as provided by the MDOT Region Traffic Safety Engineer.

This information shall be included in the appropriate area of the Attachment A.